G. R. S. 59]

GENERAL AND REVENUE SECRETARIAT.

1902-03

(med)

File No. 2160-02

Serial Nos. 1—4

Papers Filed.

Month Sep 03

SUBJECT.

Quinine & Febrifuge

PREVIOUS REFERENCES.	LATER REFERENCES.

I think that in such matters the better course would be for us to procure ~~a~~ the copy through the Residency. Why should the Senior Surgeon apply for it directly?

May an enquiry be made in this form?

10626
6.6.03

The Dewan
through the
2nd Councillor

Mr. 138
30.5.03.

The Senior Surgeon has considerably exceeded his Budget. Hence his anxiety to fortify himself with figures from elsewhere - At the same time I must say that he cannot refuse to give an estimate of actual requirements - I agree with the Secretary that the enquiry should come

0276 7.1.13
Please remember to write a more complete letter as you can't give "an estimate of requirements"

DS/1

18 19.VI.

the Govt instead of from
the Senior Surgeon -
I have returned the com-
-munication accordingly
to Senior - C

4/6/03

Copy to the Senior Surgeon
for information with
reference to his No

Thro' The Secretary to the Govt of Mysore, Genl & Revenue Depts

1902 - 1903.

From Lt. Col. P. H. Benson M.B I.M.S
Senior Surgeon & Sanitary Commr -
Mysore Government
Bangalore

To Lt Col. J. Carruthers I.M.S
Principal Medical Store Keeper
to Government, Madras Command
Madras

Dated 26th
Despatched 28 } May 1903
Received

General No. 1 c
No.

Enclosure No.

Thro'

Mysore Dewan's Office
Bangalore
No. 3364

Forwarded thro' the First Assistant to the Hon'ble the Resident in Mysore.

H. Manjunadayya
Secretary to the
Govt of Mysore
General & Rev Depts

To

The Secretary to the Govt of Mysore
Genl & Rev Depts
Bangalore

Sir,

I have the honor to request that you will be so good as to inform at your earliest convenience, the quantity of Quinine purchased for a year, for the use of the Hospitals and Dispensaries in the Madras Presidency with a view to its expenditure in the Mysore State being compared with that in the Mysore Province.

I have the honor to be,

Sir,

Your most obedient Servant

P. H. Benson
Senior Surgeon & Sany Commr
Mysore

M&OPB—8-3-01—50 reams.

1903

No 18171 dt 27/6/03
pol 517

To,

The F. A. to the Honble
the Resident in Mysore

Sir,

I am directed to request that you will be so good as to ascertain for the use of the Durbar, as early as convenient, the quantity of quinine purchased for a year for the use of the Hospitals and Dispensaries in the Madras Presidency, for comparison with the expenditure in this account in the Mysore State being compared with that in Madras.

I have &c

26/6/3
Secy

24/6/03

28/6/03

(1)

No 18171 dt 27/6/03
pol 517

1-7-03

GV55
1-9 03

1902-3

From

THE FIRST ASSISTANT TO THE
HON'BLE THE RESIDENT
IN MYSORE,

To PrC: 313.

THE DEWAN OF MYSORE.

Dated 28. 8. 03

Despatched

Received

General No. 4082
No.

Enclosure No. 1

Forwdg a Statement rec'd from the Surgeon-General with the Govt of Madras, showing the average annual quantity of Quinine & Chlorodyne purchased by Medical Store Dept Madras &c.

References to be marked.

Genl.

MGCPB—1,000—5-6-03

Letter No. 4012, dated the 20th August 1903, from the Surgeon-General with the Government of Madras, Madras, to the First Assistant to the Resident in Mysore, Bangalore.

In compliance with your letter No. 3125, dated the 3rd July 1903, I have the honour to append in the margin the average annual quantity of Quinine and Febrifuge purchased by (1) Medical Store Depot, Madras, for the use of Government Medical Institutions and (2) non-Government (i.e. Local Fund, Municipal and Private) Medical institutions in the Madras Presidency based on the issues of the past two years.

Government Medical Store Depot, Madras.		
Quinine	lbs	1558½ ø
Febrifuge	"	Nil.
Local Fund, Municipal and Private Institutions.		
Quinine	lbs	680 - oz 14.
Febrifuge	"	741 - oz 2

ø This is the figure obtained with the aid of the G.O. referred to in para 2 of this letter.

2. A copy of G.O. No. 742 Revenue, dated the 20th July 1903, on the administration of the Cinchona Department during 1902-1903 is also herewith sent for information and record in your office.

3. In this connection, the Director of the Government Cinchona Plantations, Nilgiris, wishes to point out that while these institutions take Cinchona Febrifuge a fact which may be taken into consideration, when making a comparison between the amount of Quinine alone purchased by each.

---------oOo---------

P. T. O.

The Mysore Resident's Office,

No. 4082

Bangalore, 28 August 1903.

Copy of the foregoing letter, together with its enclosure, is forwarded to the Dewan of Mysore with reference to Mr. Nanjundayya's letter No. 18171/Pol: 517, dated the 27th June 1903.

First Assistant Resident.

VS.

Government {1903} of Madras.

REVENUE.

Recd. } 1903. *Enclosures*

Regd. } *Spare copies*

G.O., No. 742, 20th July 1903.

JULY.

Report

Reviewing the — on the administration of the Cinchona Department during the year 1902–1903.

OFFICE OF SURGEON GENE
27 JUL 19
MITE

(*b*) *Manure.*—Two thousand and eighty-six cart-loads or about 1043 tons of stable and cattle manure were put out on different plots of the estate and 37·24 acres were treated with lime. The total cost of manuring was Rs. 3774–13–6—an expenditure which has been amply justified by the improvement in the condition of the trees manured. It is interesting to note that the trees which were manured in 1898 with a mixture of nitrate of soda, nitrate of potash, bonemeal and castor poonac are looking remarkably fresh and luxuriant, proving that the beneficial effect of this mixture has been long lasting. The bark from two trees on this plot was analysed, and was found to contain 7·13 per cent. and 7·84 per cent. sulphate of quinine. In 1899 the average analyses of the bark from several trees on this plot was 5·06 per cent. sulphate of quinine. These figures are of interest, but it would not be safe to draw the conclusion that the result of the manuring has been an increase of 50 per cent. in the amount of quinine on the plot. Cinchona trees show such remarkable variations in quinine contents that the only reliable way of forming an estimate of the effect of manure is to make analyses of the bark of individual trees under different conditions, *i.e.*, before and after the application of manure. During the year 1903–1904 experiments will be made to test the value of castor poonac, as it has been proved in Java that this manure is more efficacious than any other in raising the quinine contents of bark.

(*c*) *Cultivation.*—The working charges amounted to Rs. 4,952–5–3, or Rs. 15–5–4 per acre. In addition to the ordinary weeding and digging of the whole estate, 72,572 yards of trenches were dug. The soil removed from the trenches was spread over the surface of the ground and formed a good mulch for the roots of the plants during the dry weather, and the sub-soil at the bottom of the trenches was worked with a fork to the depth of about one foot and left *in situ*. This system of trenching has been particularly beneficial in those plots in which the sub-soil drainage is defective.

(*d*) *Crop.*—The total quantity of bark harvested was 50,303 lb. taken from thinnings, prunings and from dying trees, and the cost of the crop with carriage to Nedivattam was Rs. 1,853–1–6. 40·59 acres were pruned, and where the growth was dense, the trees were thinned out. The beneficial effect of the pruning has been very marked, especially on some of the younger plots.

The number of trees coppiced during the year was 3,341 and 1,871 plants were put out. The bark from 35 trees was analysed during the year and the results showed that 6 trees contain over 10 per cent. sulphate of quinine. The highest figure obtained was 12·92 per cent., and the lowest 5·10 per cent. Every tree that is found to contain over 10 per cent. of sulphate of quinine is numbered, and seed taken from these numbered trees is sown apart in the nurseries. A large number of seedlings of the best strain will soon become available, and when the requirements of the plantations are satisfied, the surplus can be sold to private planters.

Several trees were attacked by borer, and it was found that nearly all the damaged trees were in close proximity to castor-oil trees which had been grown as shade for young plants. An examination of the castor trees showed that a very large proportion were attacked by borer, they were accordingly cut down, and this description of shade tree, which is evidently congenial to the borer, will be avoided in future.

Nedivattam—(*a*) *Nurseries.*—The total nursery stock at the end of the year was 600,000 consisting of 300,000 seedlings and 300,000 young plants for the planting of No. 6 Extension of 80 acres. This stock includes 48,800 plants raised from seed taken from Dodabetta trees containing 13·90 per cent. and 11·88 per cent. sulphate of quinine, which will be put out on the most sheltered portions of the new extension. In addition to the stock of cinchona seedlings and plants, a considerable number of seedlings of Grevillea and Eucalyptus have been raised for the planting of shelter belts in the new clearing. The plants for the new clearing have all been grown in plant baskets filled with sifted sholah soil, and have made good growth. The total expenditure on nurseries was Rs. 2,410–4–6 against Rs. 335 in 1901–1902, the excess being due to the cost of raising plants for the new extension.

(*b*) *Manure.*—Thirteen thousand eight hundred and fifty bushel baskets of cattle manure were put out on various plots on the estate. The manure was put into renovation pits, which were subsequently filled with weeds and fallen leaves. The expenditure under this head was Rs. 2,243–2–0.

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

Read—the following letter from W. M. STANDEN, Esq., Director, Government Cinchona Plantations, the Nilgiris, to the Secretary to Government, Revenue Department, dated Ootacamund, 3rd June 1903, No. 33 :—

I have the honour to forward the Annual Administration Report on the Government Cinchona Department, the Nilgiris, for the year ending 31st March 1903.

Enclosures.

ANNUAL ADMINISTRATION REPORT ON THE GOVERNMENT CINCHONA DEPARTMENT, NILGIRIS, FOR THE YEAR 1902–1903.

Contents.

1. Weather and General Remarks.
2. Plantations and Crop.
3. Factory and Outturn.
4. General Charges.
5. Plantation Charges.
6. Factory Charges.
7. Issues of Manufactured Articles.
8. Receipts.
9. Stock Account.
10. Profit and Loss Account.
11. Sale of Quinine at Post Offices.
12. Miscellaneous.

Weather and General Remarks.—The season was not altogether favourable for the growth of cinchona. The period from June to November was unusually wet and was succeeded by abnormally dry weather. There were some heavy falls of rain during the south-west monsoon on the Nedivattam and Hooker estates which caused a considerable amount of wash.

The rainfall on the Dodabetta, Nedivattam, and Hooker estates respectively was 65·12, 93·16, and 79·91 inches. On the 16th July no less than 12·20 inches of rain fell on the Nedivattam estate. There was much less frost than usual.

2. Plantations and Crop—Dodabetta—(*a*) *Nurseries.*—The number of seedlings and plants in the nurseries at the end of the year was about 70,000, of which 50,000 were in the plant beds and 20,000 in the seedling beds. Forty-eight thousand and eight hundred seedlings grown from seed taken from trees analysing 13·90 per cent. and 11·88 per cent. sulphate of quinine were sent to the Nedivattam estate, and about 7,000 seedlings from the 13·90 per cent. tree remain in the nurseries. The greatest care has been taken in the preparation of the seed and plant beds. The soil has invariably been heated to destroy grubs and the spores of fungi, and passed through a fine sieve. As a result of this treatment the growth of the plants has been very even and the mortality low. By way of experiment, a commencement has been made with field nurseries. Trenches are dug between the rows of cinchona, filled in with surface soil, and planted with seedlings about 6 inches apart. The moderate shade afforded by the cinchonas obviates undue evaporation of moisture from the soil in the trenches, and the young plants are left to themselves receiving no watering during the dry months. This method of growing plants for supplying vacancies in the field has many advantages, the chief of which are that the cost is small, the plants are ready to hand when required, and even if the percentage of deaths is large the trenching serves as cultivation for the old trees. The experiments already made have succeeded so well, that it is intended to continue them on a larger scale. The total expenditure on nurseries was Rs. 404–12–11.

(*c*) *Cultivation.*—The plantation was well weeded, and was dug over before the commencement of the dry season. 31,850 renovation pits were made. The working charges amounted to Rs. 6,568–4–0 against Rs. 4,756–12–8 in 1901–1902, the increase being chiefly due to preliminary expenses in connection with the opening of the No. 6 extension.

(*d*) *Crop.*—The amount of bark harvested was 37,176 lb. consisting of 27,840 lb. crown and 9,336 lb. red bark. The crop was taken entirely from sickly trees and from prunings. The number of trees coppiced was 7,401, and 7,400 plants were put out in various plots to supply vacancies. The bark from two Ledger trees was analysed. One was found to contain 6·53 per cent. and the other 10·81 per cent. sulphate of quinine. Seed from the latter tree will be used for raising plants for some of the low-lying portions of the Hooker estate. An examination of the bark of one of the succirubra trees, which was planted in 1862, showed that it contained 2·44 per cent. sulphate of quinine and 5·82 per cent. of total alkaloids—a satisfactory proof that under favourable conditions a succirubra tree, 41 years after planting, still retains a normal percentage of alkaloids. The total expenditure under crop was Rs. 539–4–3.

Hooker (*a*) *Nurseries.*—There were about 400,000 plants and seedlings in the nurseries at the end of the year, which will be used to the extent required for supplying vacancies in the different extensions. There was a good stock also of Eucalyptus and Grevillea seedlings, which will be planted out as shelter belts, and in certain plots of the old estate. The expenditure on nurseries was Rs. 989–12–0 against Rs. 2,410–4–6 in 1901–1902, the reduction being due to the fact that no further extensions to the plantation are being undertaken at Hooker.

(*b*) *Manure.*—16,490 bushel baskets of cattle manure were put out in renovation pits on various plots of the old estate. The expenditure under this head was Rs. 465.

(*c*) *Cultivation.*—In addition to the ordinary weeding and digging, 22,670 renovation pits were dug on the old estate. The weeding of the new extensions was somewhat retarded, during the early months of the year, owing to want of labour with the result that the growth of weeds during the monsoon was heavy, and the cost of subsequent weedings was enhanced. Arrangements have now been made for the regular monthly weeding of each extension, a system which will ultimately prove the most economical. The working charges amounted to Rs. 11,509–14–6 against Rs. 11,383–4–11 in 1901–1902.

(*d*) *Crop.*—The quantity of bark harvested amounted to 56,813 lb. which was taken entirely from sickly and dying trees. The total cost of the crop was Rs. 749–3–9. The number of trees coppiced during the year was 28,516, and 91,130 plants were put out on the new extension (No. 5) of 40 acres. In addition to the planting of No. 5, the vacancies in the previously planted extensions were supplied.

The extensions at Hooker now comprise 360 acres, the total expenditure on which to date has been Rs. 53,996–8–3. Of the 5 extensions, No. 4 has been the least successful, Nos. 1 and 2 are rather uneven some portions having come on remarkably well while others show slower growth, No. 3 is the most successful and No. 5 promises to be equally good. The average height of the trees on No. 1 extension, of which measurements have been taken since the beginning of 1900 is 11 feet 9·7 inches, the tallest tree being 15 feet 7 inches. This is very good growth for trees which will not be five years old until July 1903. Fifty trees were originally selected for measurement—four have died since 1900 and the measurements refer to the 46 survivors. As no further extensions will be undertaken at Hooker, the whole of the plants raised in the nurseries will be available for supplying vacancies. It is intended to keep a large stock of well-grown plants for this purpose alone, and to plant out only the strongest and best developed plants discarding altogether any plant which appears to be deficient in vigour.

Allusion has been made in previous reports to the poor condition of many of the trees on the old Hooker estate. A considerable number of these trees have been cut down each year and arrangements have been made to interplant the poorer fields with Grevillea or Eucalyptus. Experience has shown that when these trees are planted among poor cinchonas on old land, the cinchonas rapidly improve in condition and develop into robust trees. A similar effect is observed when these shade trees are

planted among recently coppiced cinchonas. The healthiest trees on the Nedivattam estate are now to be found on plot 15 which was in such a poor condition in 1896 that it was written off as a failure, and was entirely planted up with Eucalyptus. From the first, the cinchonas on this plot began to improve, and as soon as the Eucalyptus trees afforded a moderate amount of shade, the cinchonas showed a remarkable increase in vigour. Similar results have been observed at Hooker. As soon as healthy growth among the cinchonas is established the shade trees will be thinned out and used for fuel for the factory.

3. Factory and Outturn.—The total amount of bark worked up in the factory was 528,000 lb. consisting exclusively of crown and hybrid barks. This total was made up of 277,254 lb. of purchased bark and 250,746 lb. of estate bark. There was a balance of 12,000 lb. of purchased bark in store at the end of the year, and 234,892½ lb. of estate bark or a total of 246,892½ lb. as shown in appendix C (2). The estate barks gave an average yield of 3·10 per cent. sulphate of quinine and 1·37 per cent. febrifuge and the purchased barks yielded 2·85 per cent. sulphate of quinine and 1·14 per cent. febrifuge. The total outturn was 15,711 lb. of sulphate of quinine and 6,606 lb. of febrifuge, the average yield for all the bark being 2·97 per cent. sulphate of quinine and 1·25 per cent. febrifuge. The new machinery which was installed during 1901–1902 worked very well throughout the year, and has effected a considerable reduction in the cost of manufacture as will be seen under the para Factory charges.

4. General Charges.—The total general charges were Rs. 14,704–0–10 as shown in appendix D.

5. Plantation Charges.—Appendix D, one of the new forms prescribed by the Government of India, shows the expenditure on all the plantations, but gives no information regarding the cost of different works. It has been necessary therefore for information and reference to give further details in the body of the report showing the amount spent on each estate on nurseries, working charges, manure and crop. The total expenditure on head office and plantations was Rs. 62,546–3–8. Of this sum, Rs. 13,117–1–0 were spent on the new extensions, the balance, Rs. 49,429–2–8 being the expenditure on head office and old plantations, or at the rate of Rs. 59–7–2 per acre for the 831·46 acres of old plantations. The details of the expenditure are given below:—

	Rs.	A.	P.
Head office and upkeep of old plantations	49,429	2	8
Upkeep of No. 1 extension	1,648	13	3
„ No. 2 „	1,636	10	9
„ No. 3 „	848	15	9
„ No. 4 „	1,902	0	3
Planting and upkeep of No. 5, extension	3,699	9	0
Preliminary charges in connection with No. 6	3,381	0	0
Total ...	62,546	3	8

Excluding the cost of opening No. 5 extension and the preliminary charges for No. 6, the total expenditure for 1,151·46 acres was Rs. 55,465–10–8 or Rs. 48–2–8 per acre. The cost of the bark crop was Rs. 49,429–2–8 or As. 5–5·77 per lb. against As. 4–6·20 in 1901–1902.

6. Factory Charges.—The total expenditure under factory shown in Appendix D was Rs. 1,18,477–10–2. The amount spent on the purchase of 289,254 lb. of bark from private growers was Rs. 87,496–3–10. 277,254 lb. of this bark costing Rs. 84,852–7–10 were worked up during the year, and 12,000 lb. for which Rs. 2,643–12–0 were paid remained in store at the close of the year. The total amount spent on chemicals and oil was Rs. 15,185–0–2 and the value of the chemicals used—*vide* Appendix C (1)—was Rs. 15,511–0–4. The amount of bark worked up being 528,000 lb., the cost of the chemicals and oil used per lb. of bark was 5·64 pies. The cost of fuel was ·7983 pies per lb. of bark. The total amount spent on the manufacture of 528,000 lb. of bark was Rs. 23,906–11–8 including a sum of Rs. 2,017–7–11 for depreciation of machinery, and the cost of manufacture per lb. of bark was therefore

8·693 pies against 12·15 pies in 1901–1902 and 19·18 pies by the fusel oil process in the old factory in 1900–1901. Comparing the figures for the year under review with those for the year 1900–1901 before the new machinery and the use of shale oil were introduced, it will be seen that the saving in cost of manufacture per lb. of bark has been 10·487 pies or Rs. 28,839–4–0 on the 528,000 lb. of bark treated. In the previous year the saving was Rs. 10,069–0–2, so that the total saving in cost of manufacture since the new machinery was installed has been Rs. 38,902–0–2. The total expenditure on machinery and plant since 1899–1900 has been Rs. 43,091–13–7 a sum which will be more than covered by the saving in cost of manufacture to the end of 1903–1904. The cost of manufacture per lb. of quinine was Rs. 1–8–4·15. Packing and issue charges and miscellaneous charges not connected with manufacture amounted to Rs. 8,294–14–11, a considerable portion of which being for rail and carriage, was recovered.

7. Issues of Manufactured Articles.—Appendix F which gives details of the sales of quinine and febrifuge shows that 13,179¼ lb. quinine and 3,112¾ lb. febrifuge were sold against 11,719½ lb. quinine and 2,426 lb. febrifuge in 1901–1902. The quinine was sold to Medical Depots at Rs. 14–9–4 per lb., to Local Fund and Municipal hospitals and dispensaries at Rs. 16 per lb. and the rates per lb. for pice packets were as follows :—

	Rs.	A.	P.
Central Provinces	12	0	1·88
Burmah	13	10	5·12
Native States	13	9	4·26
Hyderabad	12	0	1·88

It will be seen that there has been a satisfactory increase in the sale of pice packets in this Presidency. Febrifuge was sold during the year at Rs. 10 and Rs. 7 per lb. to Medical Depots, hospitals and dispensaries and at Rs. 12 to the public.

8. Receipts.—The receipts for the year amounted to Rs. 2,43,149–14–4 as shown in appendix B. Of this sum, Rs. 24,322–14–3 were outstandings of the previous year. The amount shown as outstanding in the Administration report for 1901–1902 was Rs. 18,203–5–2, but this was a provisional figure only as in some cases the price to be paid for the quinine had not been definitely fixed. At the close of the year the outstandings amounted to Rs. 6,767–10–0.

9. Stock Account.—The stock account appendix C (1) has been drawn up in accordance with the instructions of the Government of India, machinery and plant being omitted and the stocks of quinine, febrifuge and bark being valued at the amount for which they may be expected to sell. At the end of 1901–1902 the value of stock as shown in the last Administration report was Rs. 3,17,988–8–11 or Rs. 2,77,638–9–1 excluding machinery and plant. The value of this stock calculated according to the new system is raised to Rs. 3,71,837–7–3 quinine being taken at Rs. 15 per lb., febrifuge at Rs. 10 and bark at As. 4½ per lb. In calculating the value of stock at the close of the year quinine has been taken at Rs. 13 per lb. as this is the average price which it is expected to realise, but no alteration has been made in the rates per lb. at which febrifuge and bark are valued. The total value of stock at the close of the year is Rs. 3,95,336–13–1 or Rs. 23,499–5–10 more than at the commencement.

10. Profit and Loss Account.—Appendix E shows the profit for the year to be Rs. 68,070–2–1. The increase in value of stock accounts for Rs. 23,499–5–10 and Rs. 44,570–12–3 represents the excess value of the sales for the year compared with the year's expenditure.

11. Sale of Quinine at Post Offices.—Appendix G shows the sales of quinine powders by Revenue officials and Postmasters. It will be seen that the sales at Post offices have been 15,914·82 packets or 1,160½ lb. against 11,392·56 packets or 830¼ lb. in 1901–1902. The sales by Revenue officials include 250 packets supplied to the Collector of Nellore under G.O., No. 230, Revenue, dated 30th March 1903.

12. Miscellaneous—*Cost of Quinine.*—The actual cost of the 15,711 lb. of quinine manufactured during the year was Rs. 1,83,878-5-3 or Rs. 11-11-3·12 per lb.

This figure is obtained as follows:—

	Rs.	A.	P.
Cost of 277,254 lb. of purchased bark at As. 4-10·76 per lb.	84,852	7	10
„ of 250,746 lb. of estate bark at As. 4-9·52 per lb. ...	75,119	1	9
„ of 528,000 lb. of bark at As. 4-10·17 per lb.	1,59,971	9	7
„ of chemicals used	15,511	0	4
„ of labour, fuel, overseer's salary, etc.	6,378	3	5
Depreciation of machinery	2,017	7	11
Total ...	1,83,878	5	3

The value of the estate bark, viz., As. 4-9·52 per lb., is the cost price of the stock remaining on hand at the end of 1901-1902. The whole manufacturing expenditure has been debited against quinine. The cost of the quinine per pound may be sub-divided as follows:—

	Rs.	A.	P.	
Cost of quinine in the bark	10	2	10·97	per lb.
„ of manufacture	1	8	4·15	„
Total cost ...	Rs. 11	11	3·12	„

Analytical Work.—A laboratory has been fitted up at the Director's office, and since the beginning of December 74 samples of bark have been analysed. Samples of quinine, febrifuge and exhausted bark have also been tested.

Staff.—Under G.O., No. 738, Revenue, of 11th March 1902, Mr. G. Romilly was appointed to officiate as Director, during the absence of the permanent Director on 3 months' privilege leave, 3 months' special leave and 1 month deputation on special duty from 27th March to 26th October. Messrs. Ryan, E. Collins, and D. Campbell have, as usual, all worked very well during the year, and Mr. W. Collins, the factory overseer, whose appointment was made permanent under G.O., No. 347, Revenue, of 8th April 1902, has done very good work in the factory.

Store Returns and Service Books.—As required by the orders of Government, an inventory of the stock in the custody of the Superintendents has been made, and all service books have been kept written up to date.

Ootacamund,
6th May 1903.

(Signed) W. M. Standen,
Director.

Enclosures.

APPENDIX A (1).

Table showing the number and distribution of cinchona plants in the Government Cinchona Plantations, Madras, on 1st April 1903.

	Name of species.	Plantations.				Nurseries.			
		Number in permanent plantation on 31st March 1902.	Number of plants uprooted during the year 1902-1903.	Planted during the year 1902-1904.	Number in permanent plantations on 1st April 1903.	Number of stock plants for propagation on 1st April 1903.	Number of seedlings and rooted cuttings in nursery beds for permanent plantations.	Number of rooted plants in seed and cutting beds.	Total nursery stock on 1st April 1903.
1	2	3	4	5	6	7	8	9	10
Dodabetta.	C. officinalis ..	534,846	3,341	1,871	533,376	..	20,000	50,000	70,000
	C. hybrids and others.	61,953	..	..	61,953	..	..	..	..
	Total ..	596,799	3,341	1,871	595,329	..	20,000	50,000	70,000
Nedivattam.	C. officinalis ..	90,104	1,227	7,400	96,277	300,000	300,000	..	600,000
	C. hybrids and others.	141,218	5,511	..	135,707	..	..	..	..
	C. succirubra ..	9,848	663	..	9,185	..	..	..	..
	Total ..	241,170	7,401	7,400	241,169	300,000	300,000	..	600,000
Hooker ..	C. officinalis ..	1,013,707	1,077	91,130	1,103,760	200,000	200,000	..	400,000
	C. hybrids and others.	242,059	27,439	..	214,620	..	..	..	..
	Total .	1,255,766	28,516	91,130	1,318,380	200,000	200,000	..	400,000

APPENDIX A (2).

Statement of the number of cinchona plants on 1st April 1903.

Species.	Permanent plantations.						Nurseries.			
	Total on 1st April 1902.	Planted in 1902-03.	Uprooted in 1902-03.	Total, 31st March 1903.	Increase during 1902-03.	Decrease during 1902-03.	Total, 1st April 1902.	Total, 31st March 1903.	Increase during 1902-03.	Decrease during 1902-03.
C. officinalis ..	1,638,657	100,401	5,645	1,733,413	94,756	..	490,000	1,070,000	580,000	..
C. hybrids, others.	445,230	..	32,950	412,280	..	32,950	..	..	..	..
C. succirubra ..	9,848	..	663	9,185	..	663	..	..	..	..
Total ..	2,093,735	100,401	39,258	2,154,878	94,756	33,613	490,000	1,070,000	580,000	..

APPENDIX B.

Receipts.

Transaction of the year.			Total.					
	Rs.	A.	P.	Rs.	A.	P.		Rs.	A.	P.
Cash sales	....			....						
Sulphate of quinine *	85,786	3	4	....			* Quinine in bulk ..	62,024	8	0
Cinchona febrifuge	6,581	12	0	....			Do. pice packets .	23,761	11	4
Bark	252	4	6	....						
Seed	54	4	0	....			Total ..	85,786	3	4
Jalap	....			....						
Other cash sales	1,837	6	2	94,511	14	0				
Books credits	..			....						
For sale of pice packets of quinine ..	36,595	13	8	....						
For supplies to Government depôts ..	72,305	11	2	....						
Other book credits	39,736	7	6	1,48,638	0	4				
Total ..	....			2,43,149	14	4				

APPENDIX C (1).

Stock account of quinine, febrifuge, bark, etc., for the year ending 31st March 1903.

	Quinine.		Febrifuge.		Bark.		Chemicals and stores.		Machinery and plant.	Total value.
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.		
	LB.	RS. A. P.	LB.	RS. A. P.	LB.	RS. A. P.		RS. A. P.		RS. A. P.
Balance on 1st April 1902	8,466·4	1,26,843 12 0	13,445·8	1,34,155 0 0	342,536·8	96,338 6 3	..	14,200 5 0		3,71,837 7 3
During the year—										
Manufactured or otherwise obtained ..	15,711 0	2,12,175 11 1	6,606·0	59,011 9 6	433,546·0	1,28,937 15 10	..	15,185 0 2	.	4,15,310 4 7
Total ..	24,167·4	3,39,019 7 1	20,051·8	1,93,466 9 6	776,082·8	2,25,276 6 1	..	29,385 5 2	..	7,87,147 11 10
Sold during the year	13,179·4	1,96,175 7 1	3,113·12	24,089 1 6	1,190	463 1 0	..	197 8 0	.	2,20,925 1 7
Used for manufacture	..	...	.	....	528,000	1,55,374 12 10	..	15,511 0 4	.	1,70,885 13 2
Total ..	13,179·4	1,96,175 7 1	3,113·12	24,089 1 6	529,190	1,55,837 13 10	..	15,708 8 4	..	3,91,810 14 9
Balance on 31st March 1903 .	10,988·0	1,42,841 0 0	16,937·12	1,69,377 8 0	246,892·8	69,438 8 3	..	13,676 12 10		3,95,336 13 1

APPENDIX C (2).

Stock account of the different varieties of bark for the year 1902–1903.

	Succirubra.		Ledgeriana.		Officinalis.		Hybrid.		Other varieties.		Total.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity	Value.	Quantity.	Value.	Quantity.	Value.
	LB.	RS. A. P.			LB.	RS. A. P.					LB.	RS. A. P.
Balance on 1st April 1902	55,803·8	15,694 11 9	.		286,733	80,643 10 6	..	.	..		342,536·8	96,338 6 3
Added during year { Harvested .. .	9,336	2,751 2 0			131,956	38,687 10 0		.		..	141,292	41,441 12 0
{ Purchased	..	...	.		289,251	87,496 3 10			.	..	289,251	87,496 3 10
Total .	65,139·8	18,448 13 9			710,943	2,06,827 8 4	..	.	.	..	776,082·8	2,25,276 6 1
Disposed of in year { Sold	1,190	463 1 0	.	.	...				.		1,190	463 1 0
{ Used for manufacture.		..		.	528,000	1,55,374 12 10	.	..	..	..	528,000	1,55,374 12 10
Total ..	1,190	463 1 0	..	..	528,000	1,55,374 12 10	..	.	..	..	529,190	1,55,837 13 10
Balance on 31st March 1903 ..	63,949·8	17,985 12 9	.	..	182,943	51,452 11 6	..	.	..	.	246,892·8	69,438 8 3

APPENDIX D.

Expenditure.

	Factories or plantation.					
	General.	Dodabetta A.	Nedivattam B.	Hooker C	Factory.	Total.
General Charges.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Salaries	8,398 7 10	....	....	....	....	8,398 7 10
Exchange compensation allowance.	524 13 0	....	....	....	....	524 13 0
Clerks	3,313 10 8	....	....	....	....	3,313 10 8
Servants	228 0 0	....	....	....	....	228 0 0
Allowances.						
Travelling allowance	1,591 8 0	....	....	....	....	1,591 8 0
Contingencies.						
Postage	237 3 6	....	....	....	....	237 3 6
Telegrams	36 14 0	....	....	....	....	36 14 0
Servants' clothing	....	....	....	....	....	....
Advertisements	....	....	....	....	....	....
Municipal taxes	348 0 10	....	....	....	....	348 0 10
Miscellaneous	25 7 0	....	....	....	....	25 7 0
Total, General Charges	14,704 0 10	....	....	....	....	14,704 0 10
Plantations.						
Salaries	....	3,240 0 0	3,720 0 0	600 0 0	....	7,560 0 0
Exchange compensation allowance.	....	....	....	....	....	....
Allowances.						
Travelling allowance	....	....	....	....	....	....
Pony allowance	....	....	....	....	....	....
Garden Labour.						
Sardars and coolies	....	8,244 3 3	9,545 15 5	13,749 11 3	....	31,539 13 11
Keep of ponies, bullocks, etc.	....	675 1 10	541 13 4	....	....	1,216 15 2
Purchase of machinery and other plant.	....	....	....	....	....	....
„ of manure	....	1,178 10 9	....	....	....	1,178 10 9
„ of seed	....	....	25 0 0	28 0 0	....	53 0 0
Other miscellaneous supplies	....	646 2 0	2,237 14 0	729 7 0	....	3,613 7 0
Repairs	....	259 9 6	1,255 12 3	99 2 5	....	1,614 8 2
Cartage	....	726 10 9	214 4 0	97 7 0	....	1,038 5 9
Miscellaneous contingencies	....	27 6 1	....	....	....	27 6 1
Total, Plantations	....	14,997 12 2	17,540 11 0	15,303 11 8	....	47,842 2 10
Factories						
Salaries	....	....	....	....	1,500 0 0	1,500 0 0
Exchange compensation allowance.	....	....	....	....	....	....
Allowances.						
Manufacture	....	....	....	....	....	....
Wages	....	....	....	....	2,506 15 11	2,506 15 11
Pay of artificers	....	....	....	....	648 7 5	648 7 5
Supplies and Services.						
Machinery and plant	....	....	....	....	1,123 3 10	1,123 3 10
European stores and freight	....	....	....	....	....	....
Buildings	....	....	....	....	....	....
Chemical	....	....	....	....	15,185 0 2	15,185 0 2
Fuel	....	....	....	....	2,195 6 0	2,195 6 0
Bark	....	....	....	....	87,496 3 10	87,496 3 10
Packing materials	....	....	....	....	2,924 13 4	2,924 13 4
Issue charges	....	....	....	....	3,766 0 8	3,766 0 8
Miscellaneous	....	....	....	....	1,131 7 0	1,131 7 0
Total, Factories	....	....	....	....	1,18,477 10 2	1,18,477 10 2
Grand Total	14,704 0 10	14,997 12 2	17,540 11 0	15,303 11 8	1,18,477 10 2	1,81,023 13 10

No. 30-D. Stationery and Printing .. .. Rs. A. P. 198 6 7

APPENDIX E.

Profit and Loss account.

	Rs.	A.	P.		Rs.	A.	P.
To stock on 1st April 1902	3,71,837	7	3	By arrears recovered	24,322	14	3
Outstandings on 31st March 1902	24,322	14	3	Sales during the year	2,18,827	0	1
Salaries	17,983	4	10	Outstandings on 31st March 1903 ..	6,767	10	0
Establishment, etc., being heads of expenditure	1,61,917	5	2	Stock on 31st March 1903	3,95,336	13	1
Balance (Profit) ..	69,193	5	11				
Total ..	6,45,254	5	5	Total ..	6,45,254	5	5

APPENDIX F.

Statement showing the details of sales of quinine and febrifuge comparatively for

Details.	In the year 1902-1903.			In the year 1901-1902.		
	Quinine.	Febrifuge.	Total.	Quinine.	Febrifuge.	Total.
	LB.	LB.	LB.	LB.	LB.	LB.
Medical Stores' Madras	2,217	..	2,217	900	..	900
,, Bombay	2,001	1,500	3,501	2,500	800	3,300
Central Provinces	380¾	..	380¾	386¼	18½	404¾
,, packets	182½	..	182½	553¾	..	553¾
Bangalore-Mysore Government	600	..	600	600	..	600
North-Western Provinces	730¾	271	1,001¾	543¼	173	716¼
Rajputana	431	183½	614½	373¾	272½	646¼
,, packets	..	..	..	10	..	10
Jails and Prisons for pice packets	1,025	..	1,025	1,330	..	1,330
Burma	..	..	..	..	..	..
,, packets	291½	..	291½	291½	..	291½
Native States	2,733	185½	2,918½	2,228½	217	2,445½
,, packets	145¼	..	145¼	140½	..	140½
Hyderabad Assigned Districts, Berar	117¾	220½	338¼	137½	116	253½
,, ,, ,, packets ..	379	..	379	266	..	266
The public	..	32	32	16¾	28	44¾
Local Fund dispensaries, Madras	743 2/16	721¼	1,464 6/16	588	801	1,389
Post offices packets	1,160½	..	1,160½	830¼	..	830¼
Collectors do.	40½	..	40½	23½	..	23½
Total ..	13,179¼	3,113¾	16,293	11,719½	2,426	14,145½

APPENDIX G.

[*Madras Forms* 7, 8 *and* 9.]

Table showing the results of sale of quinine powders by Collectors and Postmasters in the several districts of the Madras Presidency.

Districts.	Sales by Collectors.											
	Balance on 1st April 1902.		Issued during the year.		Total.		Sales during the year.		Balance on 31st March 1903.	
1	2		3		4		5		6	
	PKTS.	PDS.	PKTS.	PDS.	PKTS.	PDS.	PKTS.	PDS.	PKTS.	PDS.
Anantapur ..	..		..		..		..		..	
Arcot, North	..		..		..		..		..	
Arcot, South	..		..		..		..		..	
Bellary ..	563	0	..		563	0	79	33	483	69
Canara, South	196	01	..		196	01	34	29	161	74
Chingleput ..	..		..		..		..		..	
Coimbatore ..	..		..		..		..		..	
Cuddapah ..	467	13	..		467	13	18	74	448	41
Ganjám ..	475	36	..		475	36	78	14	397	22
Gódávari ..	126	16	..		126	16	14	05	112	11
Kistna ..	61	95	100	0	161	95	55	16	106	79
Kurnool ..	..		..		..		..		..	
Madura ..	..		..		..		..		..	
Malabar ..	..		..		..		..		..	
Nellore ..	..		..		..		..		..	
Nilgiris ..	157	91	..		157	91	7	29	150	62
Salem ..	..		..		..		..		..	
Tanjore ..	..		..		..		..		..	
Tinnevelly ..	..		..		..		..		..	
Trichinopoly ..	..		..		..		..		..	
Vizagapatam ..	27	41	..		27	41	11	64	15	79
Cochin * ..	..		..		..		..		..	
Coorg * ..	..		..		..		..		..	
Hyderabad * ..	..		..		..		..		..	
Mysore * ..	..		..		..		..		..	
Travancore * ..	..		..		..		..		..	
Total ..	2,074	89	100	0	2,174	89	298 or 21·75 lb.	60	1,876 or 136·7 lb.	29

Districts.	Sales by Postmasters.										Total packets sold (columns 5 and 11).
	Number of Post offices	Balance on 1st April 1902.		Issued during the year.		Total.		Sales during the year.		Balance.	
	7	8		9		10		11		12	13
		PKTS.	PDS.	PKTS.	PDS.	PKTS.	PDS.	PKTS.	PDS.	PKTS. PDS.	PKTS. PDS.
Anantapur ..	41	195	0	189	0	384	0	179	0	205 0	179 0
Arcot, North	126	610	0	171	0	781	0	141	0	630 0	141 0
Arcot, South	158	730	0	381	0	1,111	0	301	0	790 0	301 0
Bellary ..	44	230	0	418	0	648	0	418	0	225 0	497 33
Canara, South	62	329	72	455	0	784	72	450	0	310 0	484 29
Chingleput ..	111	550	0	347	80	897	80	337	80	555 0	337 80
Coimbatore ..	96	490	61	397	0	887	61	377	0	480 0	377 0
Cuddapah ..	75	380	0	335	0	715	0	315	0	380 0	333 74
Ganjám ..	81	330	0	506	0	836	0	426	0	405 0	504 14
Gódávari ..	268	1,160	0	1,285	0	2,435	0	1,080	0	1,340 0	1,004 05
Kistna ..	130	610	0	1,623	0	2,233	0	1,573	0	650 0	1,628 16
Kurnool ..	56	290	34	373	0	663	34	373	0	285 0	373 0
Madura ..	134	655	0	868	0	1,523	0	843	0	670 0	843 0
Malabar ..	117	675	0	1,156	0	1,831	0	1,116	0	705 0	1,116 0
Nellore ..	103	516	98	428	0	944	98	413	0	515 0	413 0
Nilgiris ..	33	160	0	339	0	499	0	323	0	165 0	336 29
Salem ..	145	677	51	600	02	1,277	13	545	02	725 0	545 02
Tanjore ..	233	1,070	0	529	0	1,599	0	429	0	1,165 0	429 0
Tinnevelly ..	159	703	71	1,906	0	1,709	71	906	0	795 0	906 0
Trichinopoly ..	78	390	45	251	0	640	45	226	0	390 0	226 0
Vizagapatam ..	172	510	0	1,175	0	1,685	0	800	0	860 0	811 64
Cochin * ..	27	110	0	235	0	345	0	210	0	145 0	210 0
Coorg * ..	24	187	06	497	0	684	06	497	0	125 0	497 0
Hyderabad * ..	22	110	0	221	0	331	0	221	0	110 0	221 0
Mysore * ..	413	2,053	0	3,048	0	5,101	0	2,995	0	2,076 0	2,995 0
Travancore * ..	92	435	0	444	0	879	0	114	0	460 0	414 0
Total ..	3,009	14,148	92	17,277	82	31,426	72	15,914 or 1,160·50 lb.	82	15,161 0 or 1,104·62 lb.	16,213 40 or 1,152·25 lb.

* Native States.

Read—the following letter from W. M. STANDEN, Esq., Director, Government Cinchona Plantations, the Nilgiris, to the Secretary to Government, Revenue Department, dated Ootacamund, 5th June 1903, No. 35 :—

With reference to the letter from the Government of India, No. 825—24-2, dated 19th May 1903, communicated to this office under G.O., No. 552, Revenue, dated 1st June 1903, which was received after the submission of my Annual Administration Report for 1902–1903, I have the honour to enclose a revised profit and loss account in which the expenditure incurred on machinery and plant, amounting to Rupees 1,123–3–10, has been omitted.

APPENDIX E.

Profit and Loss Account.

	Rs.	A.	P.		Rs.	A.	P.
To Stock on 1st April 1902	3,71,837	7	3	By arrears recovered	24,322	14	3
Outstandings on 31st March 1902 ..	24,322	14	3	Sales during the year	2,18,827	0	1
Salaries	17,983	4	10	Outstandings on 31st March 1903 ..	6,767	10	0
Establishment, etc., being heads of expenditure.	1,61,917	5	2	Stock on 31st March 1903	3,95,336	13	1
Balance (profit)	69,193	5	11				
Total ..	6,45,254	5	5	Total ..	6,45,254	5	5

Read—also the following letter from W. M. STANDEN, Esq., Director, Government Cinchona Plantations, the Nilgiris, to the Secretary to Government, Revenue Department, dated Ootacamund, 6th June 1903, No. 36 :—

With a view to facilitating a comparison between the results of the year's work in the Cinchona Department for 1902–1903 and previous years, I have the honour to enclose the following statements drawn up in accordance with the forms hitherto used :—

(1) Statement of Receipts and Charges.
(2) Stock Account.
(3) Balance sheet.

It will be observed on comparing the above forms with those in the Annual Report for 1902–1903, that whereas the value of the stock on 31st March 1903 calculated in accordance with the instructions of the Government of India was Rs. 3,95,336–13–1, the valuation of the same stock according to the old forms was Rs. 3,26,338–15–3.

The balance sheet (old form) shows a profit balance of Rs. 52,921–2–7 after including as usual the whole expenditure of the department, while the new form as revised in accordance with the Government of India letter, No. 825—24–2 of 19th May 1903, shows a profit of Rs. 69,193–5–11.

No. 1.

Statement of Receipts and Charges of the Cinchona Department.

Year.	Charges.				Receipts.				Surplus, 9 — 5.	Deficit, 5 — 9.
	Of the year.	To end of year.	Simple interest (a).	Total, 2 + 4.	Of the year.	To end of year.	Simple interest (a).	Total, 6 + 8.		
1	2	3	4	5	6	7	8	9	10	11
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1875-76	..	11,22,117	Net outlay as per objection statement in G.O., No. 1339, Revenue, dated 24th June 1879.							11,22,117
1876-77	59,630	11,81,747	51,837	1,11,467	1,10,457	1,10,457	2,485	1,12,942	1,475	..
1877-78	69,772	12,51,519	54,748	1,24,520	3,57,215	4,67,672	13,008	3,70,223	2,45,703	..
1878-79	73,683	13,25,202	57,976	1,31,659	4,00,354	8,68,026	30,053	4,30,407	2,98,748	..
1879-80	79,724	14,04,926	61,428	1,41,152	4,39,787	13,07,813	48,956	4,88,743	3,47,591	..
1880-81	96,105	15,01,031	65,384	1,61,489	3,46,470	16,54,283	66,647	4,13,117	2,51,628	..
1881-82	1,13,575	16,14,606	70,102	1,83,677	5,71,889	22,26,172	87,310	6,59,199	4,75,522	..
1882-83	1,06,392	17,20,998	75,051	1,81,443	5,86,349	28,12,521	1,13,371	6,99,720	5,18,277	..
1883-84	1,24,561	18,45,559	80,248	2,04,809	85,081	28,97,602	1,28,478	2,13,559	8,750	..
1884-85	86,824	19,32,383	85,003	1,71,827	85,829	29,83,431	1,32,323	2,18,152	46,325	..
1885-86	80,379	20,12,762	88,766	1,69,145	1,04,109	30,87,540	1,36,597	2,40,706	71,561	..
1886-87	84,228	20,96,990	92,469	1,76,697	71,790	31,59,330	1,40,555	2,12,345	35,648	..
1887-88	72,161	21,69,151	95,988	1,68,149	3,941	31,63,271	1,42,259	1,46,200	..	21,949
1888-89	69,494	22,38,645	99,175	1,68,669	3,602	31,66,873	1,42,428	1,46,030	..	22,639
1889-90	68,181	23,06,826	1,02,273	1,70,454	5,440	31,72,313	1,42,632	1,48,072	..	22,382
1890-91	74,914	23,81,740	1,05,493	1,80,407	28,876	32,01,189	1,43,404	1,72,280	..	8,127
1891-92	76,805	24,57,545	1,08,884	1,84,689	77,067	32,78,256	1,45,788	2,22,855	38,166	..
1892-93	78,886	25,36,431	1,12,364	1,91,250	72,807	33,51,063	1,49,160	2,21,967	30,717	..
1893-94	73,071	26,09,502	1,15,784	1,88,855	69,337	34,20,400	1,52,358	2,21,695	32,840	..
1894-95	78,411	26,87,913	1,19,191	1,97,602	77,712	34,98,112	1,55,667	2,33,379	35,777	..
1895-96	82,560	27,70,473	1,22,814	2,05,374	1,02,882	36,00,994	1,59,730	2,62,612	57,238	..
1896-97	82,549	28,53,022	1,26,528	2,09,077	1,47,310	37,48,304	1,65,359	3,12,669	1,03,592	..
1897-98	95,300	29,48,322	1,30,530	2,25,830	98,464	38,46,768	1,70,889	2,69,353	43,523	..
1898-99	1,94,603	31,42,925	1,37,052	3,31,655	91,039	39,37,807	1,75,152	2,66,191	..	65,464
1899-1900	1,76,176	33,19,101	1,45,394	3,21,570	1,56,471	40,94,278	1,80,721	3,37,192	15,622	..
1900-1901	1,64,409	34,83,510	1,53,058	3,17,467	1,77,101	42,71,379	1,88,227	3,65,328	47,861	..
1901-1902	1,30,041	36,13,551	1,59,683	2,89,724	1,93,088	44,64,467	1,96,556	3,89,644	99,920	..
1902-1903	1,81,024	37,94,575	1,66,682	3,47,706	2,43,150	47,07,617	2,06,371	4,49,521	1,01,815	..
								Total ..	29,08,299	12,62,678
								Surplus ..	16,45,621	

(a) Interest at 4½ per cent. on half the charges or receipts of the year, *plus* charges or receipts at the end of the previous year.

No. 2.

Stock Account, 1902–1903 (old form).

	Rs.	A.	P.		Rs.	A.	P.
Value of chemicals in stock on 31st March 1902.	14,200	5	0	Value of chemicals in store	13,676	12	10
,, of 7,222 lb. of 1901–1902 quinine at Rs. 14–13–2 per lb.	1,07,051	1	8	,, of 10,988 lb. quinine in store at Rs. 11–11–3·12.	1,28,600	12	10
,, of 13,445 lb. of various years' febrifuge outturn at average rate of Rs. 2–11–10 per lb.	36,833	11	2	,, of 16,937¾ lb. febrifuge at Rs. 2–11–10.	46,402	6	0
				,, of 1,876 packets (29 powders) quinine with Collectors.	1,876	4	10
,, of 2,086·46 packets of quinine powders with Collectors at Re. 1 per packet.	2,086	7	8	,, of 16,213 packets (40 powders) quinine with Postmasters.	16,213	6	8
,, of 14,148·92 packets of quinine powders with Postmasters at Re. 1.	14,148	14	5	,, of 900 packets quinine with Postmaster-General, Hyderabad.	900	0	0
,, of 700 packets of quinine powders with Postmaster-General, Hyderabad, at Re. 1.	700	0	0	,, of 90,600 lb. old stock bark at As. 4–9·52.	27,142	4	0
				,, of 144,292 lb. 1902–1903 bark at As. 5–5·77.	49,427	8	4
,, of 342,536 lb. of bark at As. 4–9·52 per lb.	1,02,618	1	2	,, of 12,000 lb. purchased bark ..	2,643	12	0
,, of machinery and plant Rs. 33,775–13–7 *less* 5 per cent., or Rs. 1688–12–8.	32,087	0	10	,, of machinery and plant Rs. 40,349–15–10 *less* 5 per cent. depreciation.	38,332	7	11
,, of new machinery and plant	8,262	15	0				
				,, of new machinery and plant ..	1,123	3	10
Total ..	3,17,988	8	11	Total ..	3,26,338	15	3

No. 3.

Balance Sheet for the year 1902–1903 (old form).

	Rs.	A.	P.		Rs.	A.	P.
Value of stock on 31st March 1903 ..	3,17,988	8	11	Value of stock on 31st March 1903	3,26,338	15	3
Outstanding on 31st March 1902 ..	24,322	14	3	By cash for outstanding on 31st March 1902.	24,322	14	3
Total expenditure on head office and plantations.	62,546	3	8	By sales during the year	2,18,827	0	1
				Outstandings on 31st March 1903	6,767	10	0
Total expenditure on factory ..	1,18,477	10	2				
Balance (profit)	52,921	2	7				
Total ..	5,76,256	7	7	Total ..	5,76,256	7	7

Order—No. 742, Revenue, dated 20th July 1903.

Miscellaneous.

The report on the Government Cinchona Plantations for 1902–1903 has been prepared on the lines approved by the Government of India in their letter No. 2654—41–3, dated 23rd December 1902, printed in G.O., No. 253, Revenue, dated 9th March 1903. To enable the change in the presentation of the statistics to be better understood, the Director has submitted also in the last of his letters read above statements drawn up in the form hitherto used. The main change consists in valuing the stock of quinine and febrifuge at the amount for which it is proposed to sell these drugs and in omitting to take into account depreciation of, or additions to, machinery and plant. The effect of the new system is to exhibit stock at an enhanced value and also somewhat to increase the amount shown as profit on the year's working.

2. *Plantations and crop.*—The development and improvement of the plantations received due attention during the year. Propagation from selected seed and heavy manuring promise good results. The year's harvest amounted to 144,292 lb. of bark taken as usual from thinnings and prunings. It is, however, noteworthy that, during the year under review, the percentage of quinine yielded by this estate bark of admittedly inferior quality was distinctly above the average percentage derived from purchased bark.

3. *Factory and outturn.*—The factory results establish a record in several respects. The quantity of bark worked up (528,000 lb.) was much greater than in any previous year. The cost of manufacture per pound of bark—8·693 pies—was considerably less than any rate previously reached. The outturn of quinine amounted to 15,711 lb. These very satisfactory results are due to the improved machinery recently introduced, and to the great care taken by the Director to get it into successful working order. As pointed out by Mr. Standen the saving in manufactory charges effected up to the end of the current year will more than cover the cost of the improved appliances.

The total cost per pound of quinine is calculated to have been Rs. 11–11–3½, a rate materially lower than those of the two previous years—Rs. 14–13–2 and Rs. 16–7–0·96. The cost of manufacture per pound of bark probably cannot be much further lessened and, accordingly, further reduction in the cost of the quinine must, if the unit retains its present comparatively high market value, be sought in dealing, if practicable, with richer bark and in improving the factory processes. The average percentage of quinine extracted from the purchased bark worked up during the year, namely 2·85 per cent., is distinctly low.

4. *Issues of quinine and febrifuge.*—The quantity of quinine issued during the year was 13,179¼ lb. exceeding that of the previous year, which was the largest on record, by 1,459¾ lb. The sales under the pice-packet system in Post offices show steady increase: the number of packets of 102 five-grain powders sold in the year was 15,914·82, or 4,522·26 packets more than in the year before. It is further satisfactory to observe an increase in the sales of febrifuge.

5. The results recorded in the report testify to the energy and efficiency with which Mr. Standen, and Mr. G. Romilly who acted as his *locum tenens* for seven months, have managed the plantations and factory. The Government are pleased to notice also the good work done by their subordinates.

(True Extract.)

(Signed) M. HAMMICK,
Ag. Secretary to Government.

To the Director, Government Cinchona Plantations.
„ the Board of Revenue (all departments).
„ the Deputy Adjutant-General, Madras Command.
„ the Public Department.
„ the Financial Department.
„ the Educational Department.
„ the Surgeon-General.
„ the Accountant-General.
„ the Postmaster-General.
„ the Resident in Travancore and Cochin.

Copy to the Honorary Secretary, Agri-Horticultural Society.
„ the Chamber of Commerce.
„ the Reporter on Economic Products, Calcutta.
„ Monsieur Chailley Bert.

Exd. T. K. Narayana Aiyangar

150 Copies.

1903

(Here Copy letter No 4012
dated the 20th August,
1903, from the Surgeon-
General with the Govt
of Madras, Madras to
the I.A. Resident-Mysore)

No. G 1404 dt. 7-9-03

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1671

Copy of the foregoing
letter, together with
its enclosure is forwarded to the
Senior Surgeon and Sanitary
Commr with the Govt
of Mysore, with reference to
his letter No 1791 dated
the 26th May, 1903.

By order

JHB
4/9/03
for Secy

H.C.
5/9/03